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ABSTRACT

This report discusses the outcomes of a study that investigated the relationship between students with emotional and behavioral disabilities (EBD) and students with learning disabilities (LD) with regard to academic achievement over time, and examined a limited set of variables hypothesized to be related to academic achievement. The study sample included 42 students with EBD and 61 students with LD, who had been referred for special education in either kindergarten or first grades. The primary variable of interest, academic achievement, was represented by standardized math and reading test scores in kindergarten or first grade (Time 1) and fifth or sixth grade (Time 2). Findings indicated that students with EBD and students with LD differed in several aspects. At Time 1, students with EBD displayed significantly higher reading scores than students with LD. Over time, however, students with LD demonstrated significant improvement in average reading standard scores, whereas the scores for students with EBD remained unchanged. Results from regression analyses indicated that academic improvement for students with LD was related to experiencing less full time special education services. Results for both groups also indicated that being retained in kindergarten or first grade was associated with lower achievement over time. (CR)

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ED 445 466

Comparing Academic Progress in Students with Emotional and Behavioral Disabilities and Students with Learning Disabilities

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Introduction

A number of studies have compared the characteristics of students with emotional and behavior disabilities and students with learning disabilities (e.g., Margalit, 1989; Merrell, Merz, Johnson, & Ring, 1992; Scruggs, & Mastropieri, 1986); however, there is little research that compares academic achievement over time for these two groups of students. The purpose of this study was to investigate the relationship between students with emotional and behavioral disabilities and students with learning disabilities with regard to academic achievement over time and to examine a limited set of variables hypothesized to be related to academic achievement (attendance, behavior offenses, school mobility, early retention, and type of special education setting). These variables were selected because they can influence academic achievement.

Method

The study sample included 103 students who were attending school in a large school district in the Southeastern United States. This included two subgroups: 42 students with emotional and behavioral disabilities and 61 students with learning disabilities, who had been identified for special education in either kindergarten or first grades. Criteria for inclusion in the study included: (a) continuous residence in the district between August 1989 and June 1995; (b) an IQ score of 80 or higher; and (c) available math and reading scores on standardized tests at two points in time: first, when students were in kindergarten or first grade and second, when students were in fifth or sixth grade. Data for the study were gathered from district and school records. Statistics revealed that the students with emotional and behavioral disabilities and the students with learning disabilities were similar in terms of race, gender, IQ, age, and free or reduced lunch status. However, the groups differed significantly in terms of grade first labeled, with students with emotional and behavioral disabilities more likely to have been labeled in kindergarten and students with learning disabilities more likely labeled in first grade.

Study Variables. The primary variable of interest, academic achievement, was represented by standardized math and reading test scores at two points in time: kindergarten or first grade (Time 1) and fifth or sixth grade (Time 2). Test scores for Time 1 and Time 2, collected retrospectively from students' individual records, were gathered from the following instruments, which had been used by the school district to assess academic achievement: the Kaufman Test of Educational Achievement (Kaufman &

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Kaufman, 1985), the Peabody Individual Achievement Test-Revised (Dunn & Markwardt, 1988), and the Woodcock Johnson Test of Achievement-Revised (Woodcock & Johnson, 1989/1990). The other variables of interest in this study were defined as follows. Attendance was represented by the total number of absences each participant had during first, second, third, and fourth grades. Behavior offenses were defined as the total number of documented referrals that each student received for inappropriate behavior in first, second, third, and fourth grades. Early retention reflected whether a student was retained during either kindergarten or first grade. School mobility was defined as the total number of times a child changed schools during kindergarten, first, second, third, and fourth grades. Type of special setting was represented by a composite score representing the number of years students received either part time or full time special education services during first, second, third, and fourth grades, as indicated on annual, individual educational plans. Part time was defined as receiving less than 21 hours of special education services per week, while full time was defined as receiving 21 or more hours of special services per week. Placements were weighted as follows: a score of 5 was assigned for each year the student experienced full time services and a score of 10 was assigned for each year part time services were experienced. These 4 scores were aggregated.

The means and standard deviations for academic achievement at Time 1 and Time 2, and for four of the predictor variables (attendance, behavior offences, school mobility, and type of special education placement) are presented in Table 1. With regard to early retention, 45.2% (n = 19) of the students with emotional and behavioral disabilities and 31.1% (n = 19) of the students with learning disabilities were retained in either kindergarten or first grade.

Analyses

Repeated measures analyses were used to examine changes in standardized reading and math achievement test scores between Time 1 and Time 2, using an alpha level of .05. Multiple regression analyses were used to investigate the impact that attendance, behavior offenses, type of special education setting, school mobility, and early retention had on academic achievement over time for both groups students, using an alpha level of .15 in conjunction with a modified Bonferroni procedure (Hochberg, 1989; as cited in Kromrey & Dickinson, 1995).

Results

Findings indicated that students with emotional and behavioral disabilities and students with learning disabilities differed in several aspects. At Time 1, students with emotional and behavioral disabilities displayed significantly higher reading scores than students with learning disabilities. However, repeated measures analyses uncovered that over time students with learning disabilities demonstrated significant improvement in average reading standard scores, whereas the scores for students with emotional and behavioral disabilities remained unchanged.

Table 1
Means, Standard Deviations, and Ranges of the Study Variables

	Emotional & Behavioral Disabilities			Learning Disabilities		
Variable	Mean	*SD*	Range	Mean	*SD*	Range
Reading time 1	85.43[a]	9.03	72-111	80.32	10.94	45-105
Reading time 2	85.67	19.89	59-133	87.97[b]	13.12	66-113
Math time 1	82.43	9.60	66-108	81.26	10.42	59-110
Math time 2	84.45	14.45	65-118	87.59	16.01	59-142
Attendance	43.83	31.49	2-118	28.74	21.52	7-113
Behavior Offences	5.55	6.47	0-29	1.74	3.63	0-16
School Mobility	2.50	.92	1-5	2.13	1.12	1-5
Type of Special Education Setting	22.61	4.84	20.-40	35.16	5.98	20-40

[a]—indicates that the mean Time 1 score was significantly higher for students with emotional and behavioral disabilities than for students with learning disabilities (t (101) = 2.54, $p < .05$).
[b]—indicates that for students with learning disabilities, the mean Time 2 reading score was significantly higher than the mean Time 1 reading score (t (60) = 4.73, $p < .001$).

Although changes in math achievement over time were not statistically significant, visual inspection revealed a similar trend (see Figure 1).

Results from regression analyses indicated that academic improvement for students with learning disabilities was related to experiencing less full time special education services. Results for both groups also indicated that being retained in kindergarten or first grades was associated with lower achievement over time. None of the other variables produced significant results (i.e., attendance, behavior offenses, school mobility (see Tables 2 & 3).

Discussion

The findings of this study support existing research that has demonstrated the ineffectiveness of using retention as an intervention for academic deficits. Research has documented that failing kindergarten or first grade increases the likelihood of dropping out of high school (Nasen, 1991), and in this study, almost half of the students with emotional and behavioral disabilities and almost one third of the students with learning disabilities were retained in either kindergarten or first grade.

It also is troubling that even after receiving more than five years of specialized programming, average math and reading scores for both groups remained well below national averages. Howevei, students with learning disabilities made academic progress over time and this progress was associated with experiencing less time in full time special education settings. Although this finding is difficult to interpret, it is noteworthy that students with emotional and behavioral disabilities, who experienced significantly more full time special education services than students with learning disabilities, did not demonstrate academic improvement over time in either reading or math. This appears to highlight the need to examine the curricular focus of programs for students with emotional and behavioral disabilities. In closing, more research is recommended to examine academic achievement over time for students with all types of disabilities and to investigate the relationship between achievement and type of placement.

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Figure 1
Time 1 and Time 2 Average Scores in Reading and Math for Students with Emotional and Behavioral Disabilities and Students with Learning Disabilities.

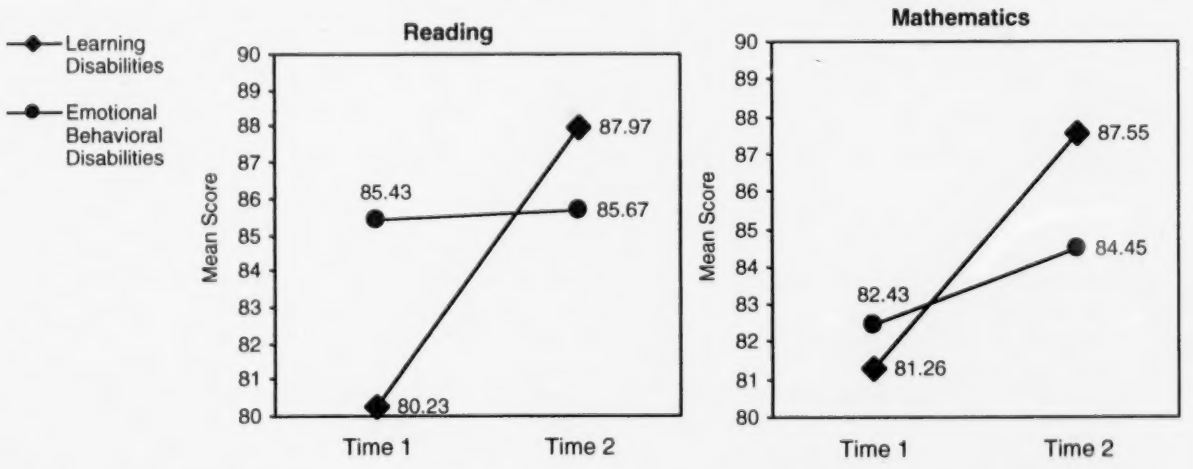

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Table 2
Summary of the Multiple Regression Analysis of Time 2 Reading and Math Residual Scores for Students with Emotional and Behavioral Disabilities

READING				
Predictor	**B**	**SE B**	**Beta**	**Level of Significance**
Retention	-11.71	4.98	-2.35*	.15/5 = .03
Attendance	-.15	.09	-1.70	.15/4 = .04
Behavior Offenses	-.59	.40	-1.49	.15/3 = .05
Type of Special Setting	.74	.53	1.41	.15/2 = .08
School Mobility	.06	3.10	.02	.15/1 = .15
MATH				
Predictor	**B**	**SE B**	**Beta**	Level of Significance
Retention	-8.47	3.91	-2.17	.15/5 = .03
Behavior Offenses	-.31	.31	-.99	.15/4 = .04
Attendance	-.07	.07	-.96	.15/3 = .05
Type of Special Setting	-.04	.41	-.11	.15/1 = .15
School Mobility	1.26	2.43	.52	.15/2 = .08

Note. Alpha levels have been adjusted using the modified Bonferroni procedure to control for Type I error. * indicates that p is significant at the stated level of significance.

Table 3
Summary of the Multiple Regression Analysis of Time 2 Reading and Math Residual Scores for Students with Learning Disabilities

READING				
Predictor	**B**	**SE B**	**Beta**	**Level of Significance**
Type of Special Setting	.71	.25	2.79*	.15/5 = .03
Retention	-4.91	3.31	-1.48	.15/4 = .04
Attendance	-.07	.07	-1.02	.15/3 = .05
Behavior Offenses	-.35	.40	-.88	.15/2 = .08
School Mobility	.43	1.45	.29	.15/1 = .15
MATH				
Predictor	**B**	**SE B**	**Beta**	**Level of Significance**
Type of Special Setting	.86	.26	3.25*	.15/5 = .03
Retention	-7.01	3.45	-2.03*	.15/4 = .04
Behavior Offenses	-.42	.42	-1.00	.15/3 = .05
School Mobility	-1.47	1.50	-.98	.15/2 = .08
Attendance	-.05	.07	-.72	.15/1 = .15

Note. Alpha levels have been adjusted using the modified Bonferroni procedure to control for Type I error.
* indicates that p is significant at the stated level of significance.